

CLAIMS:

1. A flexible foil, moveable by non-mechanical means, comprising an alternating array of first and second foil sections each non-mechanically moveable between a flattened state and a bent state having a predetermined direction of bending, wherein the predetermined direction of bending of first foil sections is opposite to the predetermined direction of bending of second foil sections.
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2. A foil as claimed in claim 1 wherein at least one of the first and second foil sections includes a polymeric material.
- 10 3. A foil as claimed in claim 2 wherein the polymeric material includes an polymerized liquid crystal.
4. A foil as claimed in claim 3 wherein at least one of the first and second foil sections includes a polymerized liquid crystal which, near one major surface of the foil, is anisotropically oriented and exhibits, in directions transverse to the foil, a change in orientation and/or concentration.
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5. A foil as claimed in claim 4, wherein the polymerized liquid crystal has a splay orientation with a planar orientation near the one major surface of the foil and a homeotropic orientation near the major surface opposite the one major surface.
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6. A foil as claimed in claim 1, 2, 3, 4 or 5 wherein at least one of the first and second foil sections is non-mechanically moveable between a flattened state and a bent state by means of radiation.
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7. A foil as claimed in claim 1, 2, 3, 4 or 5 wherein at least one of the first and second foil sections are non-mechanically moveable between a flattened state and a bent state by means of supplying or extracting heat or combination thereof.

8. A foil as claimed in claim 1, 2, 3, 4, 5, 6 or 7 wherein the foil is attached to a structure which is fixed relative to the movement of the foil.

5 9. A foil as claimed in claim 8, wherein the foil is a valve switchable between a closed and an open state.